



W401

The Banana (*Musa acuminata*) Genome and The Evolution Of Monocotyledonous Plants

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Bananas (*Musa* spp.), including dessert and cooking types, are giant perennial monocotyledonous herbs of the Zingiberales order, a sister group to the well-studied Poales. We sequenced and assembled the 520 Mb genome of a doubled-haploid of the accession 'Pahang'. This accession belongs to the *Musa acuminata* species (AA genome) *malaccensis* subspecies. We detected three rounds of whole-genome duplications in the *Musa* lineage, independently of those previously described in the Poales lineage and the one we detected in the Arecales lineage. This first monocotyledon high-continuity whole-genome sequence reported outside Poales represents an essential bridge for comparative genome analysis in plants. As such, it sheds new light on the monocotyledon lineage, reveals Poaceae specific features and has led to the discovery of conserved noncoding sequences predating monocotyledon–eudicotyledon divergence.

The complete list of authors involved in this work can be found in D'Hont et al. Nature. 2012 Aug 9; 488(7410):213-7